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In The

Supreme Court of the United States

ROSA ACUNA, INDIVIDUALLY AND AS ADMINISTRATRIX AD PROSEQUENDUM OF THE ESTATE OF ANDRES ACUNA, DECEASED,

Petitioner,

v.

SHELDON C. TURKISH, M.D.; OBSTETRICAL AND GYNECOLOGICAL GROUP OF PERTH AMBOY-EDISON,

Respondents.

On Petition for a Writ of *Certiorari* to the Supreme Court of New Jersey

BRIEF OF *AMICI CURIAE* NEW JERSEY PHYSICIANS RESOURCE COUNCIL, THE CHRISTIAN MEDICAL ASSOCIATION, CATHOLIC MEDICAL ASSOCIATION, ASSOCIATION OF PRO-LIFE PHYSICIANS, AMERICAN ASSOCIATION OF PRO-LIFE OBSTETRICIANS AND GYNECOLOGISTS, CARE NET, HEARTBEAT INTERNATIONAL, AND ADVOCATES INTERNATIONAL IN SUPPORT OF PETITION FOR A WRIT OF *CERTIORARI*

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STATEMENTS OF INTEREST OF *AMICI CURIAE*

Detailed statements of interest of the *Amici Curiae* are set forth in APPENDIX B.[1]

STATEMENT OF THE CASE

Amici adopt the Statement of the Case as set forth in the Petition for a Writ of Certiorari.

SUMMARY OF ARGUMENT

Amici comprise, in part, five groups of more than 20,000 medical doctors, including more than 320 doctors licensed to practice in New Jersey and a large number of doctors engaged in obstetrics and gynecology, the field of practice involved in this case. *Amici* represent far more than the "small minority" erroneously presumed by the Court below[2] to exist who currently advise their patients that, as a matter of *medical fact*, abortion of a pregnancy at 6-8 weeks terminates the life of an existing human being — a member of the species *Homo Sapiens*. *Amici* also

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[1] All parties were timely notified of the filing of this brief, and letters from the parties consenting to the filing of this brief have been filed with the Clerk of the Court pursuant to Rule 37.3. Pursuant to Rule 37.6, Amici disclose that: (1) no counsel for a party authored this brief, in whole or in part; and (2) no person or entity has made a monetary contribution to the preparation or submission of this brief.

[2] *See* APPENDIX A [Opinion of the Supreme Court of New Jersey] of the *Petition for Writ of Certiorari* at 20a

comprise the largest networks of pregnancy resource centers in North America, with more than 1,900 centers (including numerous centers in New Jersey) serving over 500,000 pregnant women each year who rely upon and often decide not to abort their pregnancies based upon the published medical information provided to them, including the medical fact that abortion terminates the life of an existing human being.

It is the experience and professional opinion of *Amici* that, before making the determination to terminate a pregnancy, a reasonably prudent patient considers it important and needs to know from her doctor the *medical fact* that abortion terminates the life of an existing human being because, among many reasons, there is a medical risk without this information, as occurred in this case, that the patient will suffer post-traumatic stress disorder and dangerous depression if she first learns only after her abortion that she has in fact terminated the life of an existing human being who was her child, not simply the removal of "only blood" or "just tissue at this time" as respondents unprofessionally informed petitioner in this case in contravention of standard medical practice.

Amici urge the Court to grant *certiorari* in this case because, contrary to the lower Court's unprecedented opinion, which is unsupported by any citation to a single medical authority, it is an incontrovertible biological and *medical fact*, well-documented in the record before the Court below and in APPENDIX A to this brief, that a 6-8 week old human embryo *in utero* is a complete, separate,

existing "human being" — a member of the species *Homo Sapiens* — whose life is terminated or "killed" by the abortion procedure.

More importantly, this Court should grant *certiorari* because the Court below justified its ignorance of this incontrovertible biological and *medical fact* by misconstruing this Court's opinions in *Roe v. Wade*, 410 U.S. 113 (1973) and *Planned Parenthood v. Casey*, 505 U.S. 833 (1992). Relying upon *Roe* and its progeny, the Supreme Court of New Jersey erroneously held that, for purposes of the law of informed consent, the question of whether the fetus or embryo is a human being (a member of the species *Homo Sapiens*) is not a determination of fact, but rather a "moral, theological or philosophical judgment." *Acuna v. Turkish*, 192 N.J. 399, 416, 930 A.2d 416, 425-26 (2007).

Most importantly, this Court should grant *certiorari* because the decision below authorizes and sanctions precisely the sort of medical malpractice this Court in *Gonzales v. Carhart*, 550 U.S. ___, 127 S. Ct. 1610 (2007) indicated it never intended to authorize in *Roe v. Wade* and its progeny — the intentional deception of women who the doctor believes should have an abortion and the denial of medical information women need to exercise the liberty interests recognized in *Roe*, waive their constitutional right to a relationship with their child, and make a truly informed consent regarding the abortion of their pregnancy.

ARGUMENT

Amici urge this Court to grant *certiorari first,* because the judgment below relies on this Court's opinion in *Roe v. Wade* and its progeny to inexplicably misapprehend the state of the relevant indisputable medical information in the record; and, *second*, relying on its erroneous interpretation of *Roe* and its progeny, the Court below refuses as a matter of law to require the disclosure of the most important medical information a reasonable pregnant patient wants to know when she is deciding whether or not to consent to an abortion: whether as a matter of biological and medical fact she will be terminating the life of an existing human being.

Worst of all, the opinion below instructs the medical profession that only in the case of abortion in New Jersey, by judicial fiat as a matter of law alone, is a doctor permitted to detrimentally deceive his patient by telling her that the 6-8 week human embryo in her womb is "only blood" or "just tissue at this time" when in fact as an ultrasound would disclose to her and as medical science teaches, that human embryo is an existing human being at exactly the stage of human development in which every human being is at that age.

I. The Undisputed State of the Relevant Medical Information Is that A First Trimester Abortion Terminates the Life of an Existing Human Being (a Member of the Species *Homo Sapiens*)

The life of an individual member of the species *Homo Sapiens* begins at the time of fertilization and exists until that human being's death. As more specifically described in APPENDIX A of this brief, fertilization occurs at the point in time when a male human sperm penetrates the zona pellucida (the shell) of a female human ovum. From a purely biological and medical point of view, the fact that the life of an individual member of the species *Homo Sapiens* begins at the point of fertilization (which is also publicly referred to as "conception") is an indisputable, scientifically verifiable, biological fact.

From the point of fertilization, it is standard medical practice to consider that two patients are under medical care, the mother and the unborn child. In the experience of a*mici*, pregnant mothers have no difficulty understanding that the term "human being," when used by their doctors or resource center pregnancy counselors, is meant to describe the scientific and medical existence of a human being distinct from a pregnant woman's own humanity.

This biological and medical fact should not be confused, and in a*mici*'s experience is not generally confused, with value judgments or legal concepts concerning the legal or moral status of the human being during the gestational period. The information set forth in this brief, and the medical information *Amici* agree must be provided to any pregnant patient considering an abortion, can and may be exclusively limited to current undisputed medical information well known to the medical profession and need not be addressed to value judgments or

legal concepts or in any fashion based on such judgments or concepts.

To assure uniformity of medical application, *Amici* urge this Court to acknowledge that the biological term "human being," which is supported by empirical scientific evidence, can be and is being preserved within medical practice to denote biological facts and should not be understood or intended as having a meaning that connotes or implies any other meaning or judgment. Limiting the inquiry to one that is purely factual in nature leads to the conclusion that the human embryo, at any age or stage, is a separate, individual, human being, an individual organism of the species *Homo Sapiens*.

For many decades, embryology texts have outlined and listed so-called Carnegie stages of the human embryo. These "stages" were numbered and were listed before the development of new recombinant DNA technologies and the acquisition of scientific knowledge therefrom. Consequently, although they are helpful in identifying the age of the human embryo, the descriptions of the human being at any of the so-called stages are based upon gross morphological and microscopic observation and constitute a "snapshot" in time of what he or she looks like. They describe nothing of what is occurring on a molecular level and were developed before science understood the workings and significance of genetic regulatory mechanisms.

As fully explained by the detailed medical information in the record before the Court and

summarized in APPENDIX A to this brief, the uniqueness and wholeness (or completeness) of the human being during the embryonic stages cannot be fully appreciated without an understanding of how the genetic information is packaged, and how this information becomes infolded and cascades into visible structures. The fact that these structures are more or less immature at any given stage of embryonic development must not be allowed to obscure the fact that the human embryo is an individual human being at every stage of its development.

To provide the Court with a more detailed understanding of the development of the human being through the first 12 weeks of its life prior to birth, *Amici* have set forth in APPENDIX A a summary of human development through the first trimester of pregnancy. This medical information makes it indisputably clear that the termination of the pregnancy in this case involved much more than evacuating "just blood" or "only tissue" from petitioner as respondents advised petitioner, but rather was the termination of the life of an existing human being in its embryonic stage as those terms are defined in the medical literature and used in the medical profession.[3]

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[3] Without citing even a single medical authority, the Court below proclaims that "there is no consensus in the medical community" on these facts, merely because respondents "can present expert witnesses who will dispute the point." 192 N.J. at 416, 930 A.2d at 425-26. However, even if the medical facts are disputed, at the very least the dispute should be submitted to a jury. It is not the province of the courts to decide as a matter of law which facts are or are not accepted within the

II. The Patients and Clients *Amici* Regularly See and Serve Are Women who Commonly Ask and Want To Know as a Matter of Medical Fact Whether Abortion Terminates the Life of an Existing Human Being

Amici were shocked to read in the opinion below that the New Jersey Supreme Court believes that not "even a small minority of physicians" currently tell their pregnant patients or counselees, like the petitioner in this case, who are considering abortion, that the contemplated abortion will terminate the life of an existing "human being."[4] Nothing could be further from the documented truth.

Like petitioner in this case, *Amici*'s patients or counselees commonly ask whether an abortion will terminate the life of an existing human being. Moreover, even when a patient or counselee does not instigate such a question, it is the common practice of *Amici* to provide this undisputed medical information to the patient or counselee to make sure before an abortion occurs that the patient or counselee is fully informed as to what abortion is and what it does.

[note 3 continued]

medical community. Furthermore, if there is a legitimate dispute on a particular point, the very existence of the dispute is a material fact that should be disclosed to a patient who asks for information on the issue.

[4] *See* note 2 *supra*.

The advent and use of ultrasound technology to diagnose and show the pregnant mother as a matter of medical fact the existence of the living human being *in utero* convinces a*mici* that a patient's decision to abort or not to abort is dramatically impacted by her understanding and seeing the medical existence of the human embryo. This fact is proven by the annual statistics compiled by *Amici* Care Net and Heartbeat International showing that, when a pregnant woman considering abortion is told as a medical fact about the humanity of her child and then through ultrasound imagery actually sees her first trimester child, she changes her mind and decides to carry her child to term in more than 75% of the cases.

In short, *Amici* urge this Court to review the decision below because patients commonly ask and want to know as a matter of medical fact whether abortion terminates the life of an existing human being. When they realize it does, they often change their minds about abortion and carry their pregnancies to term. Respondents' denial of this information to petitioner in this case not only was unusual, but also deprived petitioner of material medical information which reasonably prudent patients would want to know and which most likely would have changed petitioner's abortion decision.

III. It Is Untruthful as a Matter of Medical Fact to Tell a Patient at 6-8 Weeks of Pregnancy Who Asks Whether She Is Carrying an Existing Human Being that Her Pregnancy at that Time Is "Only Blood" or "Just Tissue at This Time"

Amici's members and affiliated organizations, taken together, have the privilege of serving hundreds of thousands of pregnant women each year. For the reasons set forth in this brief, it is untruthful as a matter of medical fact to tell a pregnant patient who asks whether she is carrying an existing human being at 6-8 weeks of pregnancy that her pregnancy at that time is "only blood" or "just tissue at this time." Unfortunately, such a medical deception is exactly what appears to have been sanctioned by the decision below.

Unless this Court grants *certiorari* and at least remands this case for a factual determination by a jury of what a reasonable patient in petitioner's circumstances had a right to know before deciding whether to abort her pregnancy, *Amici* are concerned that physicians who perform abortions will be held to a far lower standard of informed consent than applies to every other kind of surgical procedure.[5] Permitting deception as a matter of law can only redound to the detriment of the medical profession and to the citizens of this country who look to the courts to provide them with a means of redress when such a failure to accurately and fully provide

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[5] Physicians who perform abortions are not exempt from the standards applicable to other physicians. *Gonzales v. Carhart*, 550 U.S. ___, 127 S. Ct. 1610, 1636 (2007) ("The law need not give abortion doctors unfettered choice in the course of their medical practice, nor should it elevate their status above other physicians in the medical community"); *Planned Parenthood v. Casey*, 505 U.S. at 884 ("a requirement that a doctor give a woman certain information as part of obtaining her consent to an abortion is, for constitutional purposes, no different from a requirement that a doctor give certain specific information about any medical procedure").

requested medical information occurs, as happened in this case.

While petitioner and respondents disagree on precisely what was said, it is undisputed that respondents never disclosed that the embryo was more than just "blood" or "tissue." Even accepting respondents' version of events, they deceived petitioner by failing to disclose non-controversial medical information that was material to petitioner (as is evidenced by the very fact that she deemed it important enough to ask a specific question intended to elicit such information). Certainly, any reasonably prudent patient would expect a complete, honest and non-patronizing answer to a direct question she deemed important enough to ask.

It does not violate any physician's conscience to recognize that, when a patient asks a direct question, the physician has a duty to give a complete and truthful response consisting of neutral and well-documented medical information — in this case, biological facts such as that an embryo at 6-8 weeks of age is a member of the human species whose DNA is unique, whose brain waves could be recorded, whose muscles had begun working together, whose fingers and toes were fairly well defined, whose fingerprints were permanently engraved, and whose organs (except lungs) were present, complete and functioning, as could be observed on ultrasound at that stage. *See* note 3 *supra*.

No such non-controversial medical information was provided to petitioner when she asked about the status of her embryo. The

dismissive and patronizing answer she was given is indisputably erroneous as a matter of medical fact, is inexcusable as a matter of sound practice within the medical profession, and plainly runs afoul of both legal and medical standards for informed consent.[6]

Unfortunately, the opinion of the Court below condones such misleading responses by relying on *Roe* and *Casey* to carve out an unprecedented and unwarranted exception to the law of informed consent that protects the choice enshrined in *Roe* and *Casey*. This new exception can be invoked only by physicians performing abortions. Women contemplating abortion can no longer rely on receiving complete and honest answers to their questions because physicians can immunize themselves simply by claiming, even after the fact, to hold beliefs that conflict with such answers. As between women and their physicians, the Court below came down squarely on the side of vitiating any meaningful participation by women in choosing

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[6] Unlike many states, where the standard of informed consent focuses on what a reasonable physician would disclose under the circumstances, New Jersey has adopted a "patient-centered view of informed consent [that] stresses the patient's right to self-determination, and the fiduciary relationship between a doctor and his or her patients." *Howard v. UMDNJ*, 172 N.J. 537, 547, 800 A.2d 73, 78 (2002). This standard focuses on what information a reasonably prudent patient would deem significant in deciding whether to proceed with the proposed procedure — whether or not she asks any questions. *Id.* at 547-48, 800 A.2d at 78-79. As this Court has recognized, "it is clear that the needs of patients for information and an opportunity to discuss the abortion decision will vary considerably." *City of Akron v. Akron Ctr. for Reprod. Health, Inc.*, 462 U.S. 416, 448 n.38 (1983).

whether or not to undergo an abortion. In essence, the message the decision below sends to women is: "Don't ask any questions."

There is simply no justification in law, in medicine, or in public policy for favoring physicians over the women they harm by providing misleading answers to direct requests for medical information. Access to redress for misrepresentations by physicians that result in lack of informed consent is already available under the common law of New Jersey, as the Court below recently recognized in *Howard v. UMDNJ*, 172 N.J. 537, 552-59, 800 A.2d 73, 81-85 (2002). Ensuring such access in the abortion context is particularly important to women because they face a choice that is already "so fraught with emotional consequences," *Gonzales v. Carhart*, 550 U.S. ___, 127 S. Ct. 1610, 1634 (2007), that the subsequent discovery of deception may well trigger or exacerbate additional pain and distress. *Casey*, 505 U.S. at 882 (recognizing the State's "legitimate purpose of reducing the risk that a woman may elect an abortion, only to discover later, with devastating psychological consequences, that her decision was not fully informed").

> Whether to have an abortion requires a difficult and painful moral decision. While we find no reliable data to measure the phenomenon, it seems unexceptionable to conclude some women come to regret their choice to abort the infant life they once created and sustained. Severe depression and loss of esteem can follow.

> . . . The State has an interest in ensuring so grave a choice is well informed. It is self-evident that a mother who comes to regret her choice to abort must struggle with grief more anguished and sorrow more profound when she learns, only after the event, what she once did not know . . . .

Gonzales, 550 U.S. at ___, 127 S.Ct. at 1634 (citations omitted).

It is equally self-evident (and thus reasonably foreseeable) that, when "what she once did not know" is something that the woman specifically wanted to know but was withheld from her despite a direct question, depriving her of any redress for the corruption of her choice will only compound her grief. No law or public policy dictates such an outcome.

Society cannot turn its back on women injured by abortion, by immunizing their physicians and barring the courthouse door to claims that are available to patients in every other context. Therefore, this Court should grant *certiorari* and remand the case to the New Jersey Supreme Court with instructions that nothing in this Court's decisions, including *Roe v. Wade* and *Planned Parenthood v. Casey*, rolls back the law of informed consent in the abortion context and leaves women without legal redress for the harm they suffer from physicians who deceive them.

IV. Certiorari Should Be Granted Because the Court Below Erroneously Held that This Court's Decision in *Roe v. Wade* Permits a Medical Doctor to Intentionally Deprive His Patient of Relevant Medical Information the Patient Is Otherwise Entitled to Know Before She Consents to an Abortion

While professing not to have reached any constitutional issues, the Court below interpreted *Roe* and *Casey* —and even the First Amendment — as displacing the common law of New Jersey with respect to informed consent in the abortion context and thereby depriving women of access to the courts for the redress of the harm they suffer when their choice has been corrupted by misleading or omitted medical information. In this regard, the ruling below is in direct conflict with controlling decisions of this Court — *Roe* and *Casey* in particular.

Far from vitiating the law of informed consent, the jurisprudence of *Roe* has consistently emphasized the heightened importance of informed consent in the context of a decision as to whether or not to have an abortion. "The decision to abort, indeed, is an important, and often a stressful one, and it is desirable and imperative that it be made with full knowledge of its nature and consequences." *Planned Parenthood v. Danforth*, 428 U.S. 52, 67 (1976). *Roe* and its progeny have "stressed repeatedly the central role of the physician . . . in consulting with the woman about whether or not to have an abortion . . . ." *Colautti v. Franklin*, 439 U.S. 379, 387 (1979). "[B]ecause abortion is a

medical procedure, . . . the full vindication of the woman's fundamental right necessarily requires that her physician be given 'the room he needs to make his best medical judgment.' The physician's exercise of this medical judgment encompasses . . . assisting the woman in the decisionmaking process . . . ." *City of Akron v. Akron Ctr. for Reprod. Health, Inc.*, 462 U.S. 416, 427 (1983) (citations omitted).

The recognition of the physician's role in the decision-making process does not mean that the Constitution immunizes abortion doctors from liability for errors and omissions in the exercise of their medical judgment. As *Roe* itself recognized: "If an individual practitioner abuses the privilege of exercising medical judgment, the usual remedies, judicial and intra-professional, are available." 410 U.S. at 166. *See* note 5 *supra*.

Thus, *Roe* and its progeny pose no obstacle to a state-law medical malpractice claim based on a physician's failure to ensure that his patient's consent to an abortion was fully informed, or based on a physician's intentional or negligent communication of false or misleading information. This conclusion is not altered by the fact that the subject matter of the erroneous or omitted information relates to the nature or status of the fetus. *Casey* explicitly rejected the argument that *Roe* restricts "the giving of truthful, non-misleading information" concerning fetal development. 505 U.S. at 882.

> Nor can it be doubted that most women considering an abortion would deem the

> impact on the fetus relevant, if not dispositive, to the decision.
>
> . . . In short, requiring that the woman be informed of the availability of information relating to fetal development . . . is a reasonable measure to ensure an informed choice, one which might cause the woman to choose childbirth over abortion. This requirement cannot be considered a substantial obstacle to obtaining an abortion, and, it follows, there is no undue burden.

Id. at 882-83.

Consequently, the Court below erred in relying on *Roe* and *Casey* to justify its otherwise unsupported conclusion that assertions concerning fetal development are "moral, philosophical, and religious beliefs," as opposed to medical facts, and therefore cannot serve as the basis for a duty of disclosure for purposes of the law of informed consent. 192 N.J. at 403-04, 930 A.2d at 418.

The Court below compounded its error by mischaracterizing *Casey*'s holding with respect to the First Amendment free speech implications of recognizing a state-law duty of disclosure[7]: "The

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[7] According to the Court below, "the knowledge that [petitioner] sought from [respondents] cannot be compelled from a doctor who may have a different scientific, moral, or philosophical viewpoint on the issue of when life begins." 192 N.J. at 420, 930 A.2d at 428. The inclusion of "scientific" differences as an

[*Casey*] Court also recognized that, in certain circumstances, a physician might have a First Amendment right to be free from government-compelled speech." 192 N.J. at 418, 930 A.2d at 426. While *Casey* did mention the right not to speak, it did so in the course of holding that the law of informed consent does *not* violate this right.

> All that is left of petitioners' argument is an asserted First Amendment right of a physician not to provide information about the risks of abortion, and childbirth, in a manner mandated by the State. To be sure, the physician's First Amendment rights not to speak are implicated, but only as part of the practice of medicine, subject to reasonable licensing and regulation by the State. We see no constitutional infirmity in the requirement that the physician provide the information mandated by the State here.

505 U.S. at 884 (citations omitted).

[note 7 continued]

exception to the law of informed consent is startling and unexplained. Rare indeed is the informed consent case without opposing experts clashing on medical facts and standards. Such cases are routinely submitted to juries without any compulsory speech implications. Treating scientific disputes as to when life begins differently runs afoul of this Court's warning that abortion doctors are not entitled to special treatment. *See* note 5 *supra*.

Therefore, nothing in *Casey* justified the purported concern of the Court below about the First Amendment implications of finding a duty to disclose medical information to a patient who asked for it.

In short, this Court should grant the petition for a writ of *certiorari* to clarify that *Roe* and its progeny do not displace, distort, or dictate the direction of state law relating to informed consent as applied to abortions, and that access to the courts must be preserved for women who seek redress for harm caused by a lack of informed consent in the abortion context.

CONCLUSION

The *Amici* request that this Court grant the petition for a writ of *certiorari* and, following review, remand the case to the Supreme Court of New Jersey for further review consistent with this Court's determination that its holdings in *Roe v. Wade* and its progeny do not authorize a medical doctor to mislead his patient about the medical facts or relieve the medical doctor from providing all the medical information otherwise required by state law before an abortion is performed.

Respectfully submitted,

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APPENDIX A

A Scientific and Medical Summary of Human Development through the First Trimester of Pregnancy

The following is a short summary of the salient features of human development from the time of fertilization until the twelfth week. Whereas much of this description is common knowledge to a human embryologist or medical doctor specializing in obstetrics and gynecology, the medical information provided can be verified by referring to a number of standard medical monographs and texts on human embryology, e.g., Blechschmidt (1977), Carlson (2004), England (1996), Gasser (1975), Hamilton and Mossman (1972), Larsen (2001), Moore and Persaud (2003), O'Rahilly and Muller (2001), Patten (1968), and Sadler (2004).

For example, the earliest Blechschmidt text (as translated) states:

> This is now manifest; the evidence no longer allows a discussion as to if and when and in what month of ontogenesis *a human being is formed. To be a human being is decided for an organism at the moment of fertilization of the ovum.*

Erich Blechschmidt, THE BEGINNINGS OF HUMAN LIFE 16-17 (Transemantics, Inc. trans. 1997) (emphasis added). The Moore and Persaud text agrees:

> Union of these gametes during fertilization produces a zygote or fertilized ovum which is the primordium or *beginning of a new human being* [emphasis in original text]. Human development begins at fertilization... This highly specialized, totipotent cell marked the beginning of each of us as *a unique individual* [emphasis added].

Keith L. Moore & T.V.N. Persaud, THE DEVELOPING HUMAN: CLINICALLY ORIENTED EMBRYOLOGY 1-2 (7th ed. 2003). Likewise, the O'Rahilly and Muller text states:

> Although life is a continuous process, fertilization ... is a critical landmark because, under ordinary circumstances, *a new, genetically distinct human organism is formed when the chromosomes of the male and female pronuclei blend in the oocyte.* This remains true even though the embryonic genome is not actually activated until 2-8 cells are present at about 2-3 days. ... During the embryonic period proper, milestones include fertilization, activation of embryonic from extra-embryonic cells, implantation, and the appearance of the primitive streak and bilateral symmetry. ... Fertilization is the procession of events that begins when a spermatozoon makes contact with a secondary oocyte or its investments, and ends with the intermingling of maternal and paternal chromosomes at metaphase of the first mitotic division of the zygote. ... Fertilization takes place normally in the ampulla (lateral end) of the uterine tube. ....

> The zygote is characteristic of the last phase of fertilization and is identified by the first cleavage spindle. It is a unicellular embryo and is a highly specialized cell. The combination of 23 chromosomes present in each pronucleus results in 46 chromosomes in the zygote. Thus the diploid number is restored and the embryonic genome is formed. The embryo now exists as a genetic unity. Items 12-14 in the list above have traditionally been regarded as constituting developmental stage 1. ... Prenatal life is conveniently divided into two phases: the embryonic and the fetal. ... *[I]t is now accepted that the word embryo, as currently used in human embryology, means 'an unborn human in the first 8 weeks' from fertilization. Embryonic life begins with the formation of a new embryonic genome (slightly prior to its activation).*

Ronan O'Rahilly & Fabiola Muller, Human Embryology & Teratology 31, 33, 87 (4th ed. 2001) (emphasis added).

The First Three Weeks of Embryonic Development

Although embryologists refer to "Carnegie Stages" of development, the human being is created immediately after fertilization, and the maturation process and growth are a seamless continuum.

Human embryonic development begins with fertilization, which is a process, rather than a single

event. Fertilization typically takes place in the upper third of the uterine tube, where a spermatozoon encounters an ovulated egg. The spermatozoon has completed both meiotic divisions and has a haploid chromosomal complement, consisting of 23 chromosomes. Some of the spermatozoa possess a chromosomal complement that contains 22 autosomal chromosomes plus an X chromosome; others contain 22 autosomes and a Y chromosome. If a spermatozoon containing an X chromosome fertilizes an egg, the embryo will become a female, whereas if the spermatozoon contains a Y chromosome, the embryo will become a male. Eggs contain only X chromosomes. Just before fertilization, the egg has completed the first meiotic division; the second meiotic division is arrested in the metaphase stage. Only upon penetration of the egg by the sperm will it be released from this block and meiosis of the egg be completed.

The process of fertilization begins when a spermatozoon penetrates a cellular covering of the egg, called the corona radiata, and then encounters the zona pellucida, a 13 μm non-cellular membrane that surrounds the egg. A glycoprotein component of the zona pellucida, called the ZP-3 protein, contains species-specific sperm receptor components that selectively bind human spermatozoa to its surface (Wassarman, 1999). This process stimulates the acrosome reaction, in which the spermatozoon releases enzymes that help it to digest its way through the zona pellucida and make contact with the surface membrane of the egg (Patrat et al., 2000). Once it makes contact with the surface, the spermatozoon quickly penetrates the egg. This

stimulates two processes (Yanigimachi, 1994). One is a series of two so-called blocks to polyspermy (fertilization of an egg by more than one spermatozoon). The first block to polyspermy is called the fast block and results in a change in the transmembrane electrical potential of the egg surface membrane. The fast block occurs within seconds and prevents other spermatozoa from adhering to the surface of the egg. The second block to polyspermy, called the slow block, occurs over a few minutes, and results in changes in the zona pellucida that render it impermeable to other spermatozoa. The second major process stimulated by penetration of the egg by a sperm cell is the completion of the second meiotic division of the egg. At this point the egg gives off the second polar-body containing excess genetic material, and the egg itself contains 22 autosomes and a single X chromosome.

Next, the genetic material (the chromosomes) of both the egg and sperm form what are called pronuclei. These structures, which are microscopically recognizable, come together, and the chromosomal material of the egg and sperm intermingles. The fertilization process is now complete. Soon after this, the intermingled chromosomes organize to form a mitotic spindle. At this point the fertilized egg is called a zygote, and the genetic sex of the embryo is determined. If the zygote contains 22 pairs of autosomes plus two X chromosomes, the embryo is a genetic female. If, instead, the zygote contains 22 pairs of autosomes plus an X and a Y chromosome, the embryo is a genetic male. It is important to note, as well, that at the time of fertilization the genetic constitution of

the embryo is set and is unique to that individual. Molecular biological investigations have clearly shown that aside from identical twins or other identical multiple births, the chance of two individuals having the same pattern of nucleotides in their DNA is infinitesimal.

By the end of the first day after fertilization, the embryo undergoes an initial mitotic division, called the first cleavage division. During the first 3-4 days following fertilization, the embryo, which is undergoing cleavage divisions, passes freely down the uterine tube of the mother toward the uterus. After the second day, the embryo must rely upon its own genetic information to produce the molecules that it needs for further development (Carlson, 2004). By the time the embryo reaches the uterus, the cleaving embryo consists of roughly 50+ cells. At this stage fluid begins to accumulate in a central cavity called the blastocoele, and the cells of the cleaving embryo have begun to differentiate (specialize) into two types of cells, the trophoblast, which will form the future placenta, and a small group of interior cells, called the inner cell mass. The cells of the inner cell mass will form the embryo proper.

At about 5-6 days after fertilization, the embryo, which at that age is called a blastocyst, attaches to the surface of the lining of the mother's uterus and begins to digest its way into the endometrial lining in a process called implantation (Aplirz, 1996). Implantation occurs during the second post-fertilization week. While the embryo is implanting, significant changes occur in the inner

cell mass of the embryo complex. A thin layer of cells, called the hypoblast, forms on the bottom (ventral side) of the inner cell mass, which is now properly called the epiblast. When teaching medical students, we often refer to this stage as the two-pancake stage, because the embryo proper consists of two flat layers of cells. Below the two layers a small vesicle begins to form. This is the yolk sac, which is a prominent component of the embryo for several weeks. On top of the two layers another sac begins to form. This one is called the amnion, which will fill with fluid and will ultimately completely surround the embryo during the entire intrauterine period. Thus, one could imagine the embryo as two flat pancakes squeezed between two balloons. Meanwhile, the trophoblast undergoes further changes and becomes highly invasive, allowing it to penetrate deeply into the maternal endometrium. The invading trophoblast erodes some of the maternal endometrial blood vessels, resulting in the embryo complex's being bathed in maternal plasma and blood. This represents the start of a relationship that is critical for providing oxygen and nutrients to the embryo and allowing the removal of carbon dioxide and waste products from the embryo.

At the start of the third week post-fertilization, the embryo enters a period of gastrulation, during which a series of complex cell movements and patterns of gene expression results in the embryo's consisting of three flat layers of cells (germ layers), called ectoderm, mesoderm and endoderm. At this point the embryo, which measures less than half a millimeter from front to back, possesses a recognizable front (anterior) and tail

(posterior) end, as well as a back (dorsal side) and belly (ventral side).

During the second half of the third week, the embryo undergoes a series of complex molecular interactions, called inductions, which result in the establishment of a flat plate of thickened ectodermal cells that will fold up into a cylinder to form the rudiments of the central nervous system (brain and spinal cord). On either side of the developing central nervous system pairs of small brick-like structures appear. These structures, which form in the mesodermal gem layer, are called somites, and they represent the precursors of the bones of the spinal column and most of the muscles of the body. At the same time the embryo generates a set of signals that set in place the natural asymmetry of the body, which places the liver on the right side and the heart and stomach on the left side of the body (Schneider and Brueckner, 2000). At the same time, the body of the embryo as a whole is folding into a cylindrical structure, much like one would roll up three sheets of paper (the three "pan-calves") into a cylinder. While this is taking place, the newly cylindrical embryo is beginning to bend into a roughly C-shaped structure, with the future chin resting on what will become the chest, and a lesser fold at the tail end of the embryo.

This C-shaped configuration is important to understand, because it forms the basis for the standard way of measuring embryos, called the crown-rump length. The crown-rump length is defined as the greatest straight line distance between the farthest projection of the bent brain and

the outermost curve of the tail region, very much like one would measure the height of a printed letter "C." Thus, the total length of the embryo, if it were to be spread out, would be longer than the crown-rump length. Clinical and ultrasound measurements are almost always recorded as crown-rump length.

By the end of the third post-fertilization week, human embryos range from 1.5-2.5 mm in length. The embryo has a recognizable head and tail end and is roughly cylindrical in configuration. Within the embryo, in addition to forming the precursor of the brain and spinal cord, the most prominent development is the formation of a primitive heart, consisting at this stage of a pair of fused tubes located in the region of the future throat. Along the wall of the yolk sac appear numerous small masses of cells, called blood islands. These will soon begin to form the first blood cells, and the outer parts of the blood islands will fuse to form a primitive network of early blood vessels that will soon connect with the heart.

The Fourth Week of Development

The fourth week of development is a critical time for the human embryo, because during this period the precursors of many of the most important organ systems of the body are established. The most prominent feature at the beginning of the fourth week is the initiation of the heartbeat, which typically begins at 22 days. Soon thereafter, the straight tubular heart folds into an "S"-shaped structure in preparation for its eventual subdivision into the familiar four chambers of the mature heart.

While this is taking place, some of the major blood vessels that enter and leave the heart begin to form.

As the embryo completes its lateral folding into a cylindrical shape, the inner germ layer, the endoderm, folds up into a tube that represents the primitive digestive system. By the end of the fourth week, it is possible to recognize the regions of the gut tract that will become the pharynx, the esophagus, the stomach, and the small and large intestines. A number of localized systems of embryonic signal-calling stimulate the formation of many of the major glands of the digestive system, such as the liver and pancreas. In the throat region of the embryo, similar types of signal-calling stimulate the initial stages of formation of the thyroid gland. The future lungs and trachea are represented by a tiny outgrowth from the ventral side of the future pharynx. A recognizable mouth has formed.

Overlying the digestive tract, the brain is forming at a rapid rate, with numerous internal changes taking place. At four weeks, the brain can be subdivided into three main divisions, called the fore-, mid-, and hindbrain. Associated with early development of the nervous system is the emigration from the early neural tube of sheets of cells, called the neural crest. Cells of the neural crest migrate throughout the body and form an astounding array of structures, including the sensory and autonomic nerves, pigment cells, and most of the bones and connective tissue of the face and neck (Carlson, 2004, Table 12-1). On the head, the earliest recognizable traces of the future eyes and inner ear are readily distinguishable.

During the fourth week, the urogenital system of the embryo is barely recognizable, and only toward the end of the fourth week does a pair of small buds representing the primordia of the forelimbs (arms) appear. A couple of days later a pair of buds representing the future legs is distinguishable. The four-week embryo possesses a small tail bud, which will be represented in the adult body by the coccyx (tailbone). Beneath the skin the precursors of the vertebrae and the muscles of the back are beginning to become organized, but they are best delineated with the help of a microscope.

By the end of the fourth week, the human embryo ranges from 4-6 mm in crown-rump length. It now contains a highly functional circulation, with three sets of blood vessels: (1) an intraembryonic circulatory arc of arteries and veins that supply and drain the body of the embryo itself; (2) a vitelline system of blood vessels that supply and drain the yolk sac; and (3) an umbilical set of blood vessels, which carry embryonic blood to and from the forming placenta.

The Fifth Week of Embryonic Development

The fifth week is characterized by profound changes in almost all organ systems of the human embryo. The brain becomes subdivided into 5 parts, corresponding to the major divisions of the adult brain, and nerve cells (neurons) are forming. Alongside the brain, especially in the head and neck, one can readily distinguish identifiable nerves growing out from and into the brain. The eye has

formed a lens, and the neural networks in the retina are beginning to form. The inner ear continues to take shape, and an olfactory placode, the precursor of the organ of smell in the nose, is prominent.

The S-shaped heart is just beginning to undergo the internal subdivisions that will separate the right and left chambers, and a complex network of blood vessels supplies all parts of the embryo. The major subdivisions of the digestive tract are becoming better defined, and a pair of buds representing the future lungs is growing out from the precursor of the respiratory tract. In the pharynx, the precursors of the parathyroid glands and thymus are microscopically evident. By now a primitive form of the kidney (pro- and mesonephros) has taken shape. The mesonephros begins to function by forming small amounts of a dilute urine. The components of the genital system have not yet become defined. The muscles and skeletal elements of the trunk are still taking shape, but the embryo is not yet capable of movement. Externally, the limbs are in a period of rapid outgrowth, and by the end of the fifth week, the hands and feet resemble paddles, but digits are not yet recognizable. Nevertheless, the blueprints for the formation of both the arms and legs have been set in place.

The embryo is connected to the still-forming placenta by a short body stalk, the precursor of the umbilical cord. Although a definitive placenta has not yet formed, there is an active exchange of materials between the maternal and embryonic blood through root-like projections of the future placenta, called chorionic villi. Even though the

embryo is immunologically distinct from the mother, it is not rejected by the mother's immune system for reasons that are still very poorly understood. Nevertheless, the embryo itself is immunologically distinct from the mother in a way that is unique to the embryo.

At the end of the fifth week, the embryo is typically 8-10 mm (roughly 1/3 inch) crown-rump length. It is still incapable of movement. Largely because of the rapid growth of the brain and the shape of the head, a human embryo at this stage is readily distinguishable from embryos of other species.

The Sixth Week of Embryonic Development

One of the most prominent features of human embryonic development during the sixth week is the rapidity of change in the region of the face and neck. Already late in the fifth week the tissue components that will ultimately form the face are present. Major growth events and rearrangements during the sixth week reconfigure these components so that by the end of the sixth week the major structures that constitute the human face are set firmly in place. The eyes are very evident, but they are located on the sides of the head instead of in front. The external ears are beginning to take shape from a series of six protuberances located around a slit (pharyngeal groove) in the neck, but they do not yet look like typical ears. Over the next couple of embryonic weeks, they will migrate up the neck to their normal location on the side of the head and begin to resemble closely adult ears. Meanwhile, the bones of

the middle ear are beginning to take shape alongside the inner ear. The nose is still represented by two horseshoe-shaped structures, but they consist of the elements that will ultimately form the definitive external nose. The major components of the limbs (e.g. the elbow) are recognizable, and thickened rays representing the digits are first seen in the hands, and a few days later, in the feet.

Inside the embryo, the heart is assuming its definitive external form, but internally it is still forming the valves and septa that subdivide the left and right ventricles and atria. Starting at the end of the fifth week, the intestine has begun a phase of rapid growth in length, so that it temporarily herniates into the body stalk. The mesonephric kidney is still the dominant urinary organ, but the definitive metanephric kidney is beginning to take form. The gonads are still insignificant ridges, but by the end of the sixth week the testes can be definitively identified microscopically. The liver is a very prominent structure, which occupies much of the abdominal cavity. A trachea is identifiable, but the lungs are represented by a small number of dichotomously branching buds. The skeletal elements of the vertebral column are becoming recognizable as cartilaginous models of the definitive bones, and the muscles of the back are taking shape and are beginning to develop the ability to contract.

During the sixth week the brain is undergoing major developmental changes. At a gross level, the cerebral hemispheres are beginning a phase of massive outgrowth, and the primordium of the cerebellum is prominent. All of the cranial nerves

are now well formed, and a number of the internal tracts formed by the outgrowth of processes (axons) from neurons have begun to become organized (Altman and Bayer, 2001; O'Rahilly and Muller, 1994). Such tracts are critical for the coordinated function of the brain and spinal cord.

At the end of the sixth week the human embryo is from 11-14 mm crown-rump length and is clearly recognizable as being human.

The Seventh Week of Embryonic Development

The seventh week is a period during which near final molding of many of the external contours of the body takes place. The various components that make up the definitive face have come together so that by the end of the seventh week the face, although flattened, is fully recognizable as human. The ears are continuing their migration from the neck to the side of the head, and as they are doing so they are beginning to assume a configuration characteristic of the adult. The eyes are migrating from the sides of the head toward the front, and by the end of the seventh week eyelids are just beginning to form. The nose is quite flattened, but recognizable. Between the sixth and eight weeks the palatal shelves unite to form the palate that separates the oral from the nasal cavity. The tongue is prominent. The external contours of the neck are now smoothed out in contrast to their bumpy appearance of earlier weeks. No hair yet covers the head. The head itself is very prominent and is disproportionately large in relation to the rest of the body.

The limbs are becoming much better configured, with fingers already taking shape in the hands. Webs persist between the forming digits. Development of the toes still lags a few days behind the fingers. The body stalk continues to elongate, and by this time can be called an umbilical cord.

Internally, septation of the heart into its four definitive chambers is in the late stages, and the outflow tract is in the process of becoming subdivided into the aorta and pulmonary trunk. Two embryonic shunts are necessary for normal development. These are located between the right and left atria and between the left pulmonary artery and the descending aorta.

The intestine has been rotating toward its definitive arrangement, but much of the intestines remains herniated within the body stalk. The liver continues to be prominent, and since the sixth week, blood-forming cells are active in the liver (Dieterlen-Lievre, 1997). The pancreas is in the late stages of formation from separate dorsal and ventral primordia. Although the cells of both the liver and pancreas are beginning to develop their biochemical capabilities, they are not yet actively secreting significant amounts of cell products. The lungs are still in very early stages of formation. The mesonephric kidney is at the height of its prominence. From this point it will regress as the definitive metanephric kidney differentiates to the point of functionality. The phenotypic sexuality of the embryo remains in the indifferent stage; in other words, by grossly examining the embryo it would

still be very difficult to distinguish male from female, although this could be readily done by microscopic examination or by molecular techniques.

The nervous system remains in a very active stage of development, with the cerebral hemispheres expanding greatly. The growing surface of the brain is still smooth, but beneath the surface, the formation of nerve cells (neurons) and glia is in a very active stage. Many of the nuclei and tracts within the brain and spinal cord are actively taking shape, but higher order connections have not yet been made (Altman and Bayer, 2001; O'Rahilly and Muller, 1994). A number of the major muscle groups of the trunk are well formed and are capable of contracting. Local reflex arcs are in early stages of formation. During this week, electrical activity can be detected in the region of the brainstem. The tissue apparatus for forming cerebrospinal fluid is just becoming functional.

At 48 days (Carnegie Stage 19), human embryos range from 16-18 mm in crown-rump length, and at 51 days (Carnegie Stage 20) the range in length is 18-22 mm. The embryo is completely enclosed in a nearly transparent amniotic sac, and a definitive placenta is forming.

The Eighth Week of Embryonic Development

The eighth week of development marks the transition from what is commonly called the embryonic stage to the fetal stage. By the end of this week most of the major organs have taken on their definitive form and the embryo as a whole looks

unquestionably human, even though the proportions are not those of a normal adult.

Through differential growth the facial contours become further molded, and the eyes and ears move closer to their definitive locations. By the end of the eighth week the eyelids begin to fuse, although typically the eyes are not yet completely closed. The external, middle and internal ears have become anatomically integrated. Both arms and legs are well formed along with the digits, but recognizable fingernails have not yet appeared. The skeletal and muscular structures in the limbs are well formed, although not yet functionally mature. Yet, one can recognize almost all of the bones and muscles of the limbs.

The external genitalia of male and female embryos are still very similar in appearance, with a prominent phallus present in embryos of both sexes. Internally the genital structures are in the process of assuming definitive male or female configurations. A definitive urinary bladder is now taking shape. The embryo is actively secreting urine, earlier through the actions of the mesonephric kidneys, and later by the metanephric kidneys. A prominent pair of adrenal glands has formed alongside the kidneys. During the eighth week the herniated intestines are beginning to return to the abdominal cavity as the abdomen increases in size to accommodate them. The lining cells of the intestines are maturing biochemically, and deeper in the walls of the intestines, layers of functioning smooth muscle result in intestinal movements. The liver is now a primary producer of blood cells, but the pancreas

lags behind in its biochemical development. Detectable amounts of insulin are not yet found. The gall bladder has now become a sac-like structure. The heartbeat is approximately 160 per minute.

Structural and functional development within the nervous system continues, and increasingly the embryo can respond to local tactile stimulation by reflex movements (Hooker, 1952). Such responses can first be elicited in the sixth week. Most coordinated spontaneous movements will not occur for another week or two, however. The first spontaneous movements seen on ultrasound occur shortly after 7 1/2 weeks and consist of slow flexion and extension of the vertebral column. Because of their relatively late development, the limbs do not begin to move until movements of the trunk are well established.

At the end of the eighth week (57 days), the crown-rump length of the human embryo (now appropriately called a fetus) ranges from 27-31 mm according to the Carnegie Table of Developmental Stages in Human Embryos. During the period of the embryo (4th through 8th weeks of development) the embryo is biologically a recognizable member of the human species although it is recognizable as such on a molecular level immediately after fertilization.

The Ninth and Tenth Weeks of Human Development

Weeks 9 and 10 are ones in which consolidation of the structure of most organs is largely complete, and the biochemical function of

many of them is beginning. At week 9, the head is still almost half the length of the body and the neck is beginning to elongate. In most fetuses the eyelids are closed. The profile of the face is quite well recognizable, with a well-defined, but still receding chin, lips and a yet flattened nose. Within the mouth, teeth are forming, but they have not yet erupted. The fetus is still hairless.

The limbs are very well formed, and the webs between the digits have largely regressed. By the end of the tenth week nail fields are seen at the tips of the digits, but nails, per se, have not yet formed. The ribs are readily seen through the skin of the thorax. By this time the embryonic tail bud has largely regressed. Sexual differentiation is not yet complete, but by week 9 male and female embryos can be distinguished by visual examination.

The intestines have by now completely returned into the abdominal cavity. The metanephric kidneys are beginning to function, and the cortices of the associated adrenal glands are producing and secreting corticosteroid hormones. The thymus has functionally matured, and it is processing immune cells (T lymphocytes) and distributing them to peripheral lymphoid organs, such as lymph nodes and the spleen. The lungs are becoming glandular in structure, and the characteristic lobes have formed.

The cerebral hemispheres remain smooth, but beneath the surface the hard wiring of the brain and spinal cord continues. The fetus is only a week or two away from the beginning of a variety of complex

movement patterns. Components of the autonomic nervous system are functional and influence some of the internal organs. Myelination or insulation of the newly forming tracts in the brain has not yet begun.

There is increasing variation in the length of fetuses at this stage, but crown-rump lengths range from 37-50 mm during the ninth week and from 50-60 mm in the tenth week.

The Eleventh and Twelfth Weeks of Human Development

Aside from additional growth and minor changes of body contours, the most striking changes in the 11- and 12-week fetus are functional. Spontaneous movements that may have begun in the previous week are now better established, and new movement patterns begin. Early specific movements are startle movements and hiccups, both of which begin to appear at weeks 10-11 (Prechtl, 1989). In addition, movements of the head and limbs begin. Hand-face contact begins during week 11-12. Other important movements that begin to appear during weeks 11-12 are jaw opening and yawning. These are soon followed by sucking/swallowing movements.

The heartbeat is steady, and the autonomic innervation is functionally maturing so that it can later influence the heart rate. Within the digestive system, the cells lining the stomach and intestines are beginning to produce the enzymes needed for digestion, but significant quantities are not secreted for several more weeks. Some of the endocrine glands, such as the pituitary, adrenal, and thyroid

glands begin to produce their characteristic hormones, but for the most part significant amounts of these hormones are not yet secreted. On the other hand, secretions by the embryonic testes are important in development of the male reproductive ducts.

The fetus is entering a rapid growth phase. At 11 weeks, a crown-rump length of 60-70 mm is typical, whereas by 12 weeks the fetus may be as long as 85 mm crown-rump length.

APPENDIX B

STATEMENTS OF INTEREST OF *AMICI CURIAE*

The New Jersey Physicians Resource Council ("NJPRC") is a network of over 200 physicians, including some who practice in the field of obstetrics/gynecology, who reside and work in New Jersey. The mission of the NJPRC is to serve as an educational resource and to provide professional medical information on health issues that impact families and society. Among other things, the NJPRC assists New Jersey physicians in using their skills and medical expertise to provide insight on medical, ethical, and social issues for policy makers, medical professionals, and the public in general. The NJPRC and its members have a strong interest in the case before the Court because it raises the important questions of whether, as a matter of biological and medical fact, an abortion procedure at 6-8 weeks terminates the life of a human being — a member of the species *Homo Sapiens* — and what medical information a reasonable patient needs to know before providing a truly informed consent to an abortion. These are questions that fall squarely within the expertise of the medical professionals comprising the NJPRC, and therefore they believe that they can assist the Court to understand why the decision below does not comport with incontrovertible medical facts and with generally accepted medical standards.

The Christian Medical Association ("CMA") was founded in 1931 and today represents over 16,000 members. Its membership consists primarily of practicing physicians, including

physicians licensed to practice in New Jersey, who represent the entire range of medical specialties, including obstetrics and gynecology. Among other functions, the CMA Medical Ethics Commission coordinates member experts in the field of medical ethics who formulate positions on vital issues. These positions are subsequently voted upon for adoption, amendment, or rejection by over 100 elected representatives to the national convention of the Association. CMA's members have an interest in the case before the Court because it raises the questions of whether, as a matter of biological and medical fact, an abortion procedure at 6-8 weeks terminates the life of a human being — a member of the species *Homo Sapiens* — and what medical information a reasonable patient needs to know before providing a truly informed consent to an abortion. CMA believes that its expertise can help the Court to understand that the answers to these questions are contrary to the unfounded assumptions on which the judgment of the Court below is based.

The Catholic Medical Association is a professional association of American and Canadian physicians who seek to respond to the unique responsibility which belongs to all health-care personnel as guardians and servants of human life and human dignity. Its members are conscious of the fact that their patients entrust themselves to the knowledge acquired by physicians, and that this relationship of trust lies at the heart of the patient-physician relationship, and at the heart of the case before this Court. The Catholic Medical Association has an interest in this case because it raises fundamental questions as to whether, as a matter of biological and medical fact, an abortion procedure at

6-8 weeks terminates the life of a human being — a member of the species *Homo Sapiens* — and what medical information a reasonable patient needs to know before providing a truly informed consent to an abortion. The Association believes that its expertise on these questions can assist the Court to understand the factual fallacy of the assumptions used by the Court below to support its ruling.

The Association of Pro-Life Physicians ("APLP") is a national organization of physicians who are convinced that, as an established biological and medical fact, abortion terminates the life of an innocent human being — a member of the species *Homo sapiens* — and are committed to not performing abortions or referring patients for an abortion. The APLP seeks to employ its medical expertise to educate the public on the humanity of the preborn child, and to encourage alternative responses to crisis pregnancies. The important questions raised by the judgment below fall within the core concerns of the APLP, and therefore the APLP has a strong interest in bringing its expertise on these questions to the attention of the Court.

American Association of Pro Life Obstetricians and Gynecologists ("AAPLOG") is a national organization of over 2,100 obstetricians and gynecologists, including some who practice in New Jersey, who reaffirm the unique value and dignity of individual human life in all stages of growth and development from conception onward. AAPLOG and its members believe that their expertise on the medical issues in this case can assist the Court in understanding why the assumptions supporting the decision below are in

conflict with incontrovertible medical facts and generally accepted medical standards.

Care Net is a network of over 1100 pregnancy resource centers, all of which provide support, care and resources to pregnant women, with more than 450 Care Net affiliate pregnancy centers offering recovery support groups to women and men who have experienced trauma arising from past abortions, and with 400 centers offering ultrasound services. Care Net has a strong interest in this case because the important questions it purports to resolve will have a direct impact on the physical and emotional well-being of those who are served by Care Net, and because the experience and expertise of Care Net can assist the Court in understanding that the judgment below is based on erroneous assumptions and will have deleterious consequences.

Heartbeat International, Inc. is the first network of pro-life pregnancy resource centers in the United States and the largest in the world. For over 35 years, Heartbeat has supported, strengthened and started more than 1,000 pregnancy centers in 39 countries to provide alternatives to abortion. Heartbeat's affiliates are pregnancy resource centers, medical clinics, maternity homes, and non-profit adoption agencies located in 47 states, including one maternity home and 11 pregnancy resource centers in New Jersey, seven of which provide ultrasound services. These seven ultrasound-equipped pregnancy centers serve more than 4,000 women in New Jersey each year. Approximately 2,000 women who visit Heartbeat-affiliated centers choose life for their babies each week when provided with medically accurate

information about the developmental stages of the living human being in the womb. Heartbeat and its affiliates serve over half a million clients per year in pregnancy counseling, crisis intervention, and post-abortion healing. Over 390 Heartbeat affiliates are medical centers and/or have ultrasound machines. It has been Heartbeat's experience that 75-80% of pregnant women considering abortion who see their babies via ultrasound change their minds and firmly decide to carry their pregnancies to term. Heartbeat has a strong interest in this case because it raises important questions that will have a direct impact on the physical and emotional well-being of Heartbeat's clients. Heartbeat believes that its experience and expertise can assist the Court in understanding that the decision below is based on false assumptions which will result in seriously harmful consequences.

Advocates International is global network of attorneys, law students, law professors and jurists, with offices and/or representatives in more than 100 countries, including the United States, committed to the protection of human rights, including the right to life from conception to natural death. As such, Advocates International, through its LAW OF LIFE PROJECT, is vitally concerned that the laws of all countries acknowledge and recognize that human fetuses and embryos as a matter of biological and medical fact are human beings (members of the species *Homo Sapiens*).